

D *cont'd* complementary <sup>strands</sup> sequences that hybridize to each other to form said double-stranded molecule, and the double-stranded molecule inhibits expression of the target gene.

15. (Twice Amended) The method of claim 1 further comprising synthesis of said first and second RNA strands and initiation of RNA duplex formation outside the cell.

16. (Twice Amended) The method of claim 1 further comprising synthesis of said first and second RNA strands and initiation of RNA duplex formation inside the cell.

D *12/22* (Fourth Time Amended) A method to inhibit expression of a target gene in an invertebrate organism comprising:

- (a) providing an invertebrate organism containing a target cell, wherein the target cell contains the target gene and the target cell is susceptible to RNA interference, and the target gene is expressed in the target cell;
- (b) contacting said invertebrate organism with a ribonucleic acid (RNA), wherein the RNA is a double-stranded molecule with a first strand consisting essentially of a ribonucleotide sequence which corresponds to a nucleotide sequence of the target gene and a second strand consisting essentially of a ribonucleotide sequence which is complementary to the nucleotide sequence of the target gene, wherein the first and the second ribonucleotide sequences hybridize to each other to form the double-stranded molecule; and
- (c) introducing the RNA into the target cell, thereby inhibiting expression of the target gene.

39. (Fourth Time Amended) A kit comprising reagents for inhibiting expression of a target gene in a cell,

wherein said kit comprises (a) means for introduction of a ribonucleic acid (RNA) into the cell in an amount sufficient to inhibit expression of the target gene, and (b) the RNA;

wherein the RNA is a double-stranded molecule with a first strand consisting essentially of a ribonucleotide sequence which corresponds to a nucleotide sequence of the target gene and a second strand consisting essentially of a ribonucleotide sequence which is complementary to the nucleotide sequence of the target gene, wherein the first and the second ribonucleotide sequences hybridize to each other to form the double-stranded molecule.